

**UNIFORM BUILDING CODE COMMISSION  
ELECTRONIC MEETING / PUBLIC HEARING  
November 19, 2020 9:00 AM**

**AGENDA**

**ELECTRONIC MEETING:**

DUE TO COVID-19, NO PUBLIC ANCHOR LOCATION WILL BE PROVIDED.

Public may participate at:

[Join with Google Meet](#)

[meet.google.com/fij-mdry-tsv](https://meet.google.com/fij-mdry-tsv)

[Join by phone](#)

(US) +1 617-675-4444 PIN: 424 591 163 0266#

Welcome, and reimbursement sheet

1. Approve minutes from August 12, 2020 meeting
2. Review recommendation from the Electrical Advisory Committee for proposed amendments
  - IRC E3901.4.5 Receptacle outlet location
  - NEC 210.8(A) Dwelling Units
    - 210.8(A)(5) Dwelling Units
    - 210.8(F) Dwelling Units
  - 210.12 Arc-fault Circuit Interrupters (AFCI)
  - 230.67 Surge Protection
  - 230.85 Emergency Disconnects
  - 406.4(D)(4) Arc-fault Circuit Interrupters (AFCI) Receptacle Replacement
  - 406.9(C) Bathtub and Shower Space
  - 406.12 Tamper Resistant Receptacles
  - 15A-3-202 and 15A-3-206
3. Make a recommendation to the Business and Labor Interim Committee
4. Review liaisons for advisory committees

Please call Sharon at 530-6163 if you do not plan on attending the meeting.

Posted to the web 11-12-2020



In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Carol Inglesby, ADA Coordinator, Division of Occupational and Professional Licensing, 160 East 300 South, Salt Lake City UT 84111, Phone 530-6626, at least three working days prior to the meeting.

**Determination Regarding Holding Meeting Without Anchor Location**

Public Body: UPCC

Chair Name: Christopher Jensen

The public meeting(s) scheduled for \_\_\_\_\_ (Date or date range) will be conducted electronically and without an anchor location. I have determined meeting with an anchor location presents a substantial risk to the health and safety of those who may be present at the anchor location.

Facts upon which my determination is based:

Governor Gary Herbert issued Utah Executive Order 2020-1 declaring a state of emergency in response to COVID-19, and pursuant to Utah Executive Order 2020-5, modified the Open and Public Meetings Act requirements allowing electronic meetings without an anchor location. Utah Executive Order 2020-5 allows a public body to hold an electronic meeting, to provide means by which interested persons and the public may remotely hear or observe by audio or video transmission the open portions of the meeting. As a result, the \_\_\_\_\_ determines that there is substantial risk to the health and safety of those who may be present and will therefore be conducting its public meeting referenced above electronically, without an anchor location.

Signed this 11 day of Nov, 2020

Christopher Jensen  
Chair

MINUTES  
UTAH  
UNIFORM BUILDING CODE COMMISSION

August 12, 2020

Electronic Meeting

STAFF:

Mark Steinagel, Division Director  
Chris Rogers, Bureau Manager  
Robyn Barkdull, Bureau Manager  
Sharon Smalley, Board Secretary

COMMISSIONERS:

Christopher Jensen  
Joshua Blazzard  
Chad Flinders  
Casey Vorwaller  
Karl Mott  
Trent Hunt

Joseph Ligori  
Kent Bush  
Art Anderson  
Patrick Tomasino  
Travis Hales

VISITORS:

Chris Jensen , UL  
David Smith  
Ross Ford

Mike Stone, NEMA  
Jason Van Ausdal  
Thomas Peterson

PUBLIC HEARING

A public hearing was conducted by Deborah Blackburn on the 2020 NEC and proposed amendments.

MINUTES

A motion was made by Kent Bush to approve the minutes from the July 22, 2020 meeting. The motion was seconded by Travis Hales and passed unanimously.

REVIEW PUBLIC COMMENTS  
FROM HEARING

There were no public comments.

MAKE A FINAL RECOMMENDATION  
TO THE BUSINESS AND  
LABOR COMMISSION

A motion was made by Trent Hunt to forward the recommendation on the adoption of the 2020 NEC and proposed amendments on to the Business and Labor Interim Committee. The motion was seconded by Karl Mott and passed unanimously.

Robyn Barkdull gave an update on the discussion

of accessory dwelling units. Assignments were given to the League of Cities and Towns. Tom Peterson also spoke on some of the requirements.

The meeting adjourned at 9:45.

The meeting adjourned at 9:32.



UNIFORM BUILDING CODE COMMISSION

ELECTRICAL ADVISORY COMMITTEE

November 2, 2020 1:30  
Electronic Meeting  
Heber M Wells Building  
160 E 300 S Salt Lake City, UT

MINUTES

STAFF

Robyn Barkdull, Bureau Manager  
Sharon Smalley, Board Secretary

ELECTRICAL ADVISORY COMMITTEE MEMBERS

Jason VanAusdal	Art Anderson (absent)
Joseph Taft	Rhett Butler
David Winger (absent)	Steve Woodman
Bryan Romney	

VISITORS

Chris Jensen, UL LLC	Don Iverson, Square D
David Smith	Mike Stone, NEMA
Ross Ford, UHBA	Tom Peterson, State of Utah
Doug Smith	

MINUTES

A motion was made by Bryan Romney to approve the minutes from the March 12, 2020 meeting as written. The motion was seconded by Joseph Taft and passed unanimously.

A motion was made by Bryan Romney to approve the minutes from the May 14, 2020 as written. The motion was seconded by Rhett Butler and passed unanimously.

REVIEW PROPOSED AMENDMENTS:

IRC E3901.4.5 Receptacle outlet location

Following a review of the proposed amendment, a motion was made by Bryan Romney to approve the amendment as written. Following the discussion,

the motion was amended to add the word “leading” between “bottom” and “edge”. The amended motion was seconded by Joseph Taft and passed unanimously.

#### NEC 210.8(A) Dwelling Units

Following the review of the proposed amendment, a motion was made Joseph Taft to deny the proposal. The motion was seconded by Rhett Butler and passed unanimously.

#### NEC 210.8(A)(5) Basements

Following the review of this proposed amendment, a motion was made by Joseph Taft to deny the amendment. The motion was seconded by Rhett Butler and passed unanimously.

#### NEC 210-8(F) Outdoor Outlets

Following the review of this proposed amendment, a motion was made by Rhett Butler to deny the proposal. The motion was seconded by Steve Woodman and failed with a vote of three in favor and Bryan Romney and Joseph Taft voting in opposition.

The proposed amendment was then reviewed a second time to add possible wording to the section. A motion was made by Bryan Romney to add additional wording to this section with an effective date of January 1, 2022. The motion was seconded by Joseph Taft and the vote was two in favor and two in opposition. Jason VanAusdal abstained from voting. No action was taken on the proposal.

#### NEC 210.12 Arc-fault Circuit Interrupters (AFCI)

This proposal was reviewed and discussed by all present. Following the review, a motion was made by Rhett Butler to deny the proposed amendment. The motion was seconded by Joseph Taft and passed unanimously.

#### 230.67 Surge Protection

Following the review of this section, a motion was made by Rhett Butler to deny the proposal. The motion was seconded by Steve Woodman and passed unanimously.

#### 230-85 Emergency Disconnects

Following the review of this section, a motion was made by Steve Woodman to deny the proposal. The motion was seconded Rhett Butler and passed

unanimously.

406.4(D)(4) Arc-fault Circuit Interrupters  
(AFCI) Receptacle Replacement

Following the review of this section, a motion was made by Steve Woodman to deny the proposal. The motion was seconded by Joseph Taft and passed unanimously.

406.9(C) Bathtub and Shower Space

Following the review of the proposal, a motion was made by Rhett Butler and seconded by Steve Woodman to deny the proposal. The motion passed unanimously.

406.12 Tamper Resistant Receptacles

Following the discussion by all present, a motion was made by Bryan Romney to deny the proposal. The motion was seconded by Rhett Butler and passed unanimously.

15A-3-202 and 15A-3-206

Doug Smith and Chris Jensen spoke to the Committee in connection with this proposal. Following the review, a motion was made by Bryan Romney to approve the proposal. The motion was seconded by Steve Woodman and passed unanimously.

The meeting adjourned at 4:25.

*Note: These minutes are not intended to be a verbatim transcript but are intended to record the significant features of the business conducted in this meeting. Discussed items are not necessarily shown in the chronological order they occurred.*

UTAH DEPARTMENT OF COMMERCE  
DIVISION OF OCCUPATIONAL AND PROFESSIONAL LICENSING  
160 East 300 South Salt Lake City UT 84111  
PO Box 146741 Salt Lake City UT 84114-6741  
E-mail: dansjones@utah.gov  
Web www.dopl.utah.gov

REQUEST FOR CODE AMENDMENT

Requesting Agency/Person: Thomas Peterson	Date: 10/23/2020
Street Address: 350 N State Street	
City, State, Zip Salt Lake City, Utah 84114	
Contact Person: Thomas Peterson	Phone: 435-720-3516
Code to be Amended: 2015 International Residential Code (Include edition)	
Section: E3901.4.5	
Section Title: Receptacle outlet location.	

**AMENDMENT:**

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.

**E3901.4.5 Receptacle outlet location.**

Receptacle outlets shall be located not more than 20 inches (508 mm) above the countertop. Receptacle outlet assemblies installed in countertops shall be listed for the application. Receptacle outlets shall not be installed in a face-up position in the work surfaces or countertops. Receptacle outlets rendered not readily accessible by appliances fastened in place, appliance garages, sinks or rangetops as addressed in the exception to Section E3901.4.1, or appliances occupying dedicated space shall not be considered as these required outlets. [210.52(C)(5)]

Exception: Receptacle outlets shall be permitted to be mounted not more than 12 inches (305 mm) below the countertop in construction designed for the physically impaired and for island and peninsular countertops where the countertop is flat across its entire surface and there are no means to mount a receptacle within 20 inches (508 mm) above the countertop, such as in an overhead cabinet. Receptacles mounted below the countertop in accordance with this exception shall not be located ~~where the countertop extends more than 6 inches (152 mm) beyond its support base. [210.52(C)(5) Exception]~~ more than 14 inches from the bottom edge of the countertop.

Purpose of or Reason for the amendment:

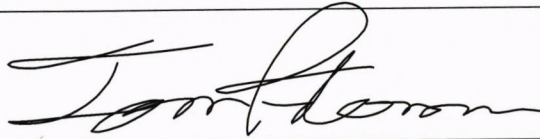
As you can see by the drawing submitted, the 12" below and 6" in provides for a cord length below the counter of around 13.5". This exception would just allow for a depth of counter to be more than 6" while not allowing anymore cord to hang over the edge of the counter. (See Exhibit A attached.)

Cost or Savings Impact of Amendment:

It will not be a cost impact on most projects, however I am aware of one project where this amendment would have saved \$1000. If anything it will be a cost savings to projects and allow more flexibility with construction.

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):

Signature:



Date: 10/26/2020

**For Division Use:**

Date Received:

**Committee Action:**

- ☐ Approved ☐ Denied  
☒ Approved with revisions 11-2-20  
☐ Referred to:  
☐ Tabled

**UBC Commission Decision for Hearing:**

- ☒ Approved for hearing ☐ Denied  
☐ Approved with revisions  
☐ Referred to:  
☐ Tabled

Date Filed:

Public Hearing Date:

**UBC Commission Decision for Adoption:**

- ☐ Approved ☐ Denied  
☐ Approved with revisions  
☐ Referred to:  
☐ Tabled

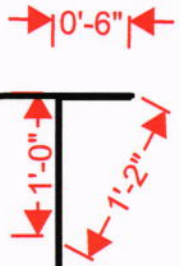
Effective Date:



# EXHIBIT A

Old requirementttt

New Requirement



UTAH DEPARTMENT OF COMMERCE  
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PO Box 146741 Salt Lake City UT 84114-6741  
E-mail: b8@utah.gov  
Web: www.dopl.utah.gov

REQUEST FOR CODE AMENDMENT

Requesting Agency/Home Builders Association of Utah	Date:10/14.2020
Street Address:38 W 13775 S.	
City, State, Zip Draper Utah 84020	
Contact Person: Ross Ford	Phone: 801-352-8266
Code to be Amended: (Include edition) 2020 NPA National Electrical Code	
Section: 210.8(A)	
Section Title: Dwelling Units	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.

**210.8(A) Dwelling Units.**

All 125-volt, single-phase, 15- and 20-ampere through 250-volt receptacles installed in the locations specified in 210.8(A)(1) through (A)(11) and supplied by single-phase branch circuits rated 150 volts or less to ground shall have ground-fault circuit-interrupter protection for personnel.

**1. Bathrooms**

2. Garages and also accessory buildings that have a floor located at or below grade level not intended as habitable rooms and limited to storage areas, work areas, and areas of similar use

**3. Outdoors**

Exception to (3): Receptacles that are not readily accessible and are supplied by a branch circuit dedicated to electric snow-melting, deicing, or pipeline and vessel heating equipment shall be permitted to be installed in accordance with 426.28 or 427.22, as applicable.

**4. Crawl spaces — at or below grade level 5. Basements**

Exception to (5): A receptacle supplying only a permanently installed fire alarm or burglar alarm system shall not be required to have ground-fault circuit-interrupter protection.

Informational Note: See 760.41(B) and 760.121(B) for power supply requirements for fire alarm systems. Receptacles installed under the exception to 210.8(A)(5) shall not be considered as meeting the requirements of 210.52(G).

6. Kitchens — where the receptacles are installed to serve the countertop surfaces

7. Sinks — where receptacles are installed within 1.8 m (6 ft) from the top inside edge of the bowl of the sink

8. Boathouses

9. Bathtubs or shower stalls — where receptacles are installed within 1.8 m (6 ft) of the outside edge of the bathtub or shower stall

10. Laundry areas

Exception to (1) through (3), (5) through (8), and (10): Listed locking support and mounting receptacles utilized in combination with compatible attachment fittings installed for the purpose of serving a ceiling luminaire or ceiling fan shall not be required to be ground-fault circuit-interrupter protected. If a generalpurpose convenience receptacle is integral to the ceiling luminaire or ceiling fan, GFCI protection shall be provided.

11. Indoor damp and wet locations

Purpose of or Reason for the amendment:  
Reason:

The unfortunate event used as the sole substantiation for the change involved an older stove with both an appliance manufacturing error as well as an installation error. This change goes beyond requiring belt and suspenders safety provisions. Those were already in place, and it took both to fail for the incident to occur.

The proposed requirement of GFCI protection for all 250-volt receptacles is too broad and not supported by the committee's substantiation. According to the NFPA article used to support the change, the appliance in question was "an older installation, one predating today's requirement to install an equipment grounding conductor in the branch circuit to the range". It sounds like the tragedy was only possible with older wiring. This is another example that shows new construction and updated electrical systems do not constitute the same dangers as those in older homes.

The committee contends that 250-volt receptacles present similar hazards as 125-volt convenience receptacles and this is not true. 250-volt receptacles are installed behind the range or dryer without being readily accessible to the consumer. 250-volt appliances are plugged in and left for the operation of the appliance, but 125-volt receptacles are generally accessible to the consumer. If the consumer chose to, they could use a convenience receptacle for extension cords or other appliance use, whereas a 250-volt receptacle is specific to that appliance.

Cost or Savings Impact of Amendment:

This code change will increase the cost of construction for dwellings with electric clothes dryers and dwellings with electric ranges or stoves within 6 feet of the kitchen sink. As the receptacle outlets are typically not readily accessible, the cost analysis is based on substituting a GFCI circuit breaker for a standard circuit breaker for typical appliance ratings: 30-amp for electric dryers; 50-amp for electric ranges. The analysis will assume electric appliances for the Reference Houses and Reference Buildings: a review of the drawings shows all have applicable dryers except Reference Building 1 (common laundry) and all have applicable ranges except Reference House 3 (range is more than 6 feet from the sink).



Component	Unit	Material	Labor	Total	w/O&P	Quantity	Cost
GFCI 30- or 50-amp 2-pole breaker	EA	114.00		114.00	125.40	1	125.40
Standard 30- or 50-amp 2-pole breaker	EA	9.75		9.75	10.73	(1)	(10.73)
<b>Total to Builder</b>							<b>114.68</b>
<b>Total to Consumer</b>							<b>136.35</b>

Reference Houses	GFCI protection for 250-volt receptacles			
	Unit	Unit Cost	Quantity	Cost
Reference House 1	EA	136.35	2	272.70
Reference House 2	EA	136.35	2	272.70
Reference House 3	EA	136.35	1	136.35
Reference House 4	EA	136.35	2	272.70

Reference Buildings	GFCI protection for 250-volt receptacles			
	Unit	Unit Cost	Quantity	Cost
Reference Building 1 (24 units)	EA	136.35	24	3,272.37
Reference Building 2 (36 units)	EA	136.35	72	9,817.10
Reference Building 3 (48 units)	EA	136.35	96	13,089.46
Reference Building 4 (167 units)	EA	136.35	334	45,540.42
Reference Townhouse	EA	136.35	2	272.70

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):  
No compliance costs

### For Division Use:

Signature:		Date:	
Date received:			
<b>Committee Action:</b> Approved Approved with revisions Referred to: Tabled		<b>UBC Commission Decision for Hearing:</b> Approved for hearing Approved with revisions Referred to: <i>committee</i> Tabled	
Date Filed:		Public Hearing Date:	
<b>UBC Commission Decision for Adoption:</b> Approved Approved with revisions Referred to Tabled		Effective Date:	

UTAH DEPARTMENT OF COMMERCE  
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REQUEST FOR CODE AMENDMENT

Requesting Agency/Home Builders Association of Utah	Date:10/14.2020
Street Address:38 W 13775 S.	
City, State, Zip Draper Utah 84020	
Contact Person: Ross Ford	Phone: 801-352-8266
Code to be Amended: (Include edition) 2020 NPA National Electrical Code	
Section: 210.8(A)(5)	
Section Title: Dwelling Units	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.

210.8(A)(5) Dwelling Units

(5) Basements Unfinished portions or areas of the basement not intended as habitable rooms

Exception to (5): A receptacle supplying only a permanently installed fire alarm or burglar alarm system shall not be required to have ground-fault circuit-interrupter protection.

Purpose of or Reason for the amendment:  
Reason:

Substantiation of actual problems in finished basements was not provided to support expanding this requirement beyond unfinished basements. Not all basements are subject to damp or wet conditions and should not be subject to the same rules as ones that are.

Expanding GFCI coverage to all areas of finished basements even where no water is to be expected is not justified. Finished areas of basements are not as hazardous as bathrooms or kitchens where people use small appliances near sinks and tubs, and no data was presented to prove otherwise. GFCI receptacles were first required in the 1987 edition of the code and expanded to the entire unfinished area of basements in the following edition. There has been no reason to expand coverage to all basements for the past 30 years, which shows there is no known benefit to requiring finished basements to be covered by GFCIs.

The committee statement claims that "basements whether finished or unfinished are prone to moisture including flooding", but that statement best reflects conditions in older homes. As written, this would



affect all new houses but only older homes which have their basement electrical systems updated or expanded. (Building codes have added requirements to address moisture in basements. Newer homes require drain tile and water proofing materials which go beyond the traditional paring mortar of the past.) If the concern is centered on the conditions of older homes, then an expansion of GFCI protection should focus on such homes and not include new construction.

**Cost or Savings Impact of Amendment:**

This code change will increase the cost of construction for houses with basements where a basement or portion of a basement is finished. The cost analysis is based on Reference House 3 that shows optional finished rooms in the basement (see Appendix G). These finished areas are estimated to require four independent circuits for wall receptacles with each circuit protected by one GFCI receptacle.

Component	Unit	Material	Total	w/O&P	Quantity	Cost
GFCI duplex outlet, 15- or 20-amp	EA	13.34	13.34	14.67	1	14.67
Standard duplex outlet, 15A	EA	1.06	1.06	1.17	(1)	(1.17)
Standard duplex outlet wall plate	EA	0.20	0.20	0.22	(1)	(0.22)
<b>Total to Builder</b>						<b>13.28</b>
<b>Total to Consumer</b>						<b>15.79</b>

Reference Houses	GFCI protection for basement receptacles			
	Unit	Unit Cost	Quantity	Cost
Reference House 3	EA	15.79	4	63.16

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):  
No compliance costs

**For Division Use:**

Signature:		Date:	
Date received:			
<b>Committee Action:</b> Approved Approved with revisions Referred to: Tabled		<b>UBC Commission Decision for Hearing:</b> X Approved for hearing Approved with revisions 11-19-20 Referred to: Tabled	
Date Filed:		Public Hearing Date:	
<b>UBC Commission Decision for Adoption:</b> Approved Approved with revisions Referred to Tabled		Effective Date:	

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City, State, Zip Draper Utah 84020	
Contact Person: Ross Ford	Phone: 801-352-8266
Code to be Amended: (Include edition) 2020 NPA National Electrical Code	
Section: 210.8(F)	
Section Title: Dwelling Units	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.

210.8(F) Outdoor Outlets

~~210.8(F) Outdoor Outlets:~~

~~All outdoor outlets for dwellings, other than those covered in 210.8(A)(3), Exception to (3), that are supplied by single-phase branch circuits rated 150 volts to ground or less, 50 amperes or less, shall have ground-fault circuit interrupter protection for personnel.~~

~~Exception: Ground-fault circuit interrupter protection shall not be required on lighting outlets other than those covered in 210.8(C).~~

Purpose of or Reason for the amendment:

GFCIs are shown to be effective where a corded product is plugged into a standard "convenience" receptacle in a wet or damp location. However, this requirement is for condenser units, which are hardwired.

Data was not provided to supports expanding the use of GFCI protection on these circuits. The event used as substantiation was a result of an unqualified individual performing an electrical installation they never should have attempted. The NEC should not mandate GFCI protection for all outdoor outlets based on very specific unfortunate circumstances.



This requirement is extremely broad and will result in many unintended consequences. For example, it has not been determined if all A/C condenser units will operate on a GFCI protected circuit as sufficient testing has not been conducted. If the condenser unit is affected by high humidity and trips the GFCI, it could result in unhealthy conditions and property damage inside the home due to heat, humidity and mold growth, especially where the home is unoccupied for an extended period. There is also the potential for unwanted tripping and compatibility issues with heat pumps.

Branch circuit extensions or modifications would require the addition of GFCI protection for old condenser units, and it is not known whether the existing equipment is compatible with GFCI. This requirement also applies to hardwired connections for effluent pumps and other types of lift station pumps with outdoor connections.

#### Cost or Savings Impact of Amendment:

This code change will increase the cost of construction for dwellings with a condensing unit. The analysis is based on substituting a GFCI circuit breaker for a standard circuit breaker using typical condensing unit ratings: 30-amp for a 3-ton unit for all Reference Houses and the Reference Townhouse; 15/20-amp for a 1.5/2-ton unit for Reference Buildings 2, 3, and 4.

Component	Unit	Material	Labor	Total	w/O&P	Quantity	Cost
GFCI 30-amp 2-pole breaker	EA	114.00		114.00	125.40	1	125.40
Standard 30-amp 2-pole breaker	EA	9.75		9.75	10.73	(1)	(10.73)
<b>Total to Builder</b>							<b>114.68</b>
<b>Total to Consumer</b>							<b>136.35</b>

Component	Unit	Material	Labor	Total	w/O&P	Quantity	Cost
GFCI 15- or 20-amp 2-pole breaker	EA	101.45		101.45	111.60	1	111.60
Standard 15- or 20-amp 2-pole breaker	EA	8.68		8.68	9.55	(1)	(9.55)
<b>Total to Builder</b>							<b>102.05</b>
<b>Total to Consumer</b>							<b>121.33</b>

Reference Houses	GFCI protection for outdoor outlets			
	Unit	Unit Cost	Quantity	Cost
Reference House 1	EA	136.35	1	136.35
Reference House 2	EA	136.35	1	136.35
Reference House 3	EA	136.35	1	136.35
Reference House 4	EA	136.35	1	136.35

Reference Buildings	GFCI protection for outdoor outlets			
	Unit	Unit Cost	Quantity	Cost
Reference Building 1 (24 units)	EA	121.33	0	0.00
Reference Building 2 (36 units)	EA	121.33	36	4,368.02
Reference Building 3 (48 units)	EA	121.33	48	5,824.03
Reference Building 4 (167 units)	EA	121.33	167	20,262.76
Reference Townhouse	EA	136.35	1	136.35

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.)

(You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):  
No compliance costs

**For Division Use:**

Signature:	Date:
Date received:	
<b>Committee Action:</b> Approved Approved with revisions Referred to: Tabled	<b>UBC Commission Decision for Hearing:</b> X Approved for hearing Approved with revisions Referred to: Tabled
Date Filed:	Public Hearing Date:
<b>UBC Commission Decision for Adoption:</b> Approved Approved with revisions Referred to Tabled	Effective Date:

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REQUEST FOR CODE AMENDMENT

Requesting Agency/Home Builders Association of Utah	Date:10/14.2020
Street Address:38 W 13775 S.	
City, State, Zip Draper Utah 84020	
Contact Person: Ross Ford	Phone: 801-352-8266
Code to be Amended: (Include edition) 2020 NPA National Electrical Code	
Section: 210.12	
Section Title: Arc-fault Circuit Interrupters (AFCI)	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.



~~210.12 Arc Fault Circuit Interrupter Protection. Arc fault circuit interrupter protection shall be provided as required in 210.12(A), (B), and (C). The arc fault circuit interrupter shall be installed in a readily accessible location.~~

~~(A) Means of Protection Dwelling Units. All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas shall be protected by any of the means described in 210.12(A)(1) through (6):~~

~~1. A listed combination type arc fault circuit interrupter, installed to provide protection of the entire branch circuit. 2. A listed branch-feeder type AFCI installed at the origin of the branch circuit in combination with a listed outlet branch circuit type arc fault circuit interrupter installed at the first outlet box on the branch circuit. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit. 3. A listed supplemental arc protection circuit breaker installed at the origin of the branch circuit in combination with a listed outlet branch circuit type arc fault circuit interrupter installed at the first outlet box on the branch circuit where all of the following conditions are met: a. The branch circuit wiring shall be continuous from the branch circuit overcurrent device to the outlet branch circuit arc fault circuit interrupter. b. The maximum length of the branch circuit wiring from the branch circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor. c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit. 4. A listed outlet branch circuit type arc fault circuit interrupter installed at the first outlet on the branch circuit in combination with a listed branch circuit overcurrent protective device where all of the following conditions are met: a. The branch circuit wiring shall be continuous from the branch circuit overcurrent device to the outlet branch circuit arc fault circuit interrupter. b. The maximum length of the branch circuit wiring from the branch circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor. c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit. d. The combination of the branch circuit overcurrent device and outlet branch circuit AFCI shall be identified as meeting the requirements for a system combination—type AFCI and shall be listed as such.~~

~~5. If RMC, IMC, EMT, Type MC, or steel-armored Type AC cables meeting the requirements of 250.118, metal wire-ways, metal auxiliary gutters, and metal outlet and junction boxes are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be~~

~~permitted to install a listed outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit. 6. Where a listed metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 50 mm (2 in.) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed~~

~~outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.~~

~~Exception: Where an individual branch circuit to a fire alarm system installed in accordance with 760.41(B) or 760.121(B) is installed in RMC, IMC, EMT, or steel-sheathed cable, Type AC or Type MC, meeting the requirements of 250.118, with metal outlet and junction boxes, AFCI protection shall be permitted to be omitted.~~

~~(B) Dormitory Units. All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets and devices installed in dormitory unit bedrooms, living rooms, hallways, closets, bathrooms, and similar rooms shall be protected by any of the means described in 210.12(A)(1) through (6).~~

~~(C) Guest Rooms and Guest Suites. All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets and devices installed in guest rooms and guest suites of hotels and motels shall be protected by any of the means described in 210.12(A)(1) through (6).~~

~~(D) Branch Circuit Extensions or Modifications — Dwelling Units and Dormitory Units. In any of the areas specified in 210.12(A) or (B), where branch-circuit wiring is modified, replaced, or extended, the branch circuit shall be protected by one of the following:~~

~~1. A listed combination-type AFCI located at the origin of the branch circuit 2. A listed outlet branch-circuit type AFCI located at the first receptacle outlet of the existing branch circuit~~

~~Exception: AFCI protection shall not be required where the extension of the existing conductors is not more than 1.8 m (6 ft) and does not include any additional outlets or devices.~~

**Purpose of or Reason for the amendment:**

This amendment retains the provisions of the 2017 NEC. AFCIs were first introduced in the 1999 edition of the National Electrical Code (NEC) with an effective date of Jan. 1, 2002. Code Making Panel 2, which had responsibility over branch circuits where AFCIs are addressed, largely based its approval of the code change on several U.S. Consumer Product Safety Commission (CPSC) reports. However, the number of incidents cited at the time were several times higher than in later reports, and where the data showed that



AFCIs would have a minimal benefit, the results were ignored. The resulting expected benefits led to AFCI requirements being included in the NEC, but were overblown.

The problems with the rationale were so evident that even electrical manufacturers spoke against the proposal. During the 1998 code development cycle comment period, manufacturers' representatives stated that a large body of information was available to support rejecting an AFCI mandate. The main issue: the electrical problems AFCIs are designed to prevent occur overwhelmingly in older dwellings.

When the Home Was Built Is Important

A CPSC epidemiological study, "Residential Electrical Distribution System Fires," showed that 85% of fires of electrical origin occur in homes that are more than 20 years old. This means that the bulk of these homes were wired in accordance with the 1965 or earlier editions of the NEC. Further, they were wired with products manufactured to product safety standards of a similar vintage. In the years since, numerous changes have been made in both the NEC and product safety standards which mitigate against similar fires in newer homes—even as they age.

The June 2015 issue of the U.S. Fire Administration's Topical Fire Report Series reported "A strong relationship between housing age and the rate of electrical fires has been observed, with housing over 40 years old having the strongest association with electrical distribution fires [emphasis added]." The median age of one- and two-family housing in the U.S. is 40 years. The share of housing units built before 1970 is 39%, and those built before 1950 is 18%. According to a study conducted by the U.S. Consumer Product Safety Commission, dwellings built before 1965 may still have fuses instead of circuit breakers, and those built before 1945 may still have knob and tube wiring.

These older homes were also wired with a very limited number of receptacle outlets, resulting in extensive use of extension cords or improper alterations and additions to the original electrical system, both recognized fire hazards. In addition, they are more likely to have outdated appliances, space heaters or other characteristics that might lead to a greater risk of a fire starting. Newer homes have fire blocking, hardwired smoke alarms and egress windows installed to today's codes, all of which increase the chances of surviving a fire. Even as homes built to today's residential code get older, they will continue to provide protection for families through their improved safety.

While questions regarding construction code requirements intended to increase the safety of homes cannot, and should not, be decided solely on the issue of cost, it is reasonable to ask if there is a demonstrated need for the requirement or if an acceptable level of safety can be achieved through other, less expensive means. The cost of an incremental increase in the margin of safety can be quite high.

Higher regulatory costs have real consequences for working American families. These regulations end up pushing the price of housing beyond the means of many teachers, police officers, firefighters and other middleclass workers. Nationally, for every \$1,000 increase in the price of a home, about 150,000 households are priced out of the market for a median-priced new home. The added cost of \$300-\$400 for AFCIs may not sound like much when compared to the overall cost of a home, but this is only one of many regulations which adds cost for new homebuyers. Every \$838 increase in construction costs adds an additional \$1,000 to the final price of the home.

Mandating costly incremental increases in safety will only protect those who can afford them and will often decrease safety for those who cannot. Families who cannot qualify to purchase homes due to the increased costs from mandatory code requirements such as AFCIs will have to live in housing that is less safe, because that housing was built to less stringent code requirements.

The total cost to home buyers to install AFCIs is over \$430,000,000—per year. This is 24 times the cost of damage per year, and it is clear that requiring AFCIs in new construction will not prevent all damage. This is due to the fact that AFCIs cannot prevent all fires and, more importantly, that electrical fires occur overwhelmingly in older houses.

From 1980 to 2015 there has been a significant drop in the number of reported fires, injuries and fatalities in the United States. During that time period the number of fires has dropped by 50 percent and fatalities have dropped by about the same margin, even as the population increased. The decline was sharpest during the 1980s before AFCIs were introduced. This further supports the importance of encouraging homeowners to move up to newer homes without the added burden of increased regulation.

Cost or Savings Impact of Amendment:

Cost of this code is dependent on the size of the home and number of circuits a modest home will have over 15 circuits impacted at a cost of \$50 to \$200 each, totaling \$750 to \$2000 per home

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):  
No compliance costs

### For Division Use:

Signature:	Date:
Date received:	
<b>Committee Action:</b> Approved Denied <i>11-2-2020</i> Approved with revisions Referred to: Tabled	<b>UBC Commission Decision for Hearing:</b> Approved for hearing Denied <i>11-19-20</i> Approved with revisions Referred to: Tabled
Date Filed:	Public Hearing Date:
<b>UBC Commission Decision for Adoption:</b> Approved Denied Approved with revisions Referred to Tabled	Effective Date:

UTAH DEPARTMENT OF COMMERCE  
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PO Box 146741 Salt Lake City UT 84114-6741  
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Web: www.dopl.utah.gov

REQUEST FOR CODE AMENDMENT

Requesting Agency/Home Builders Association of Utah	Date:10/14.2020
Street Address:38 W 13775 S.	
City, State, Zip Draper Utah 84020	
Contact Person: Ross Ford	Phone: 801-352-8266
Code to be Amended: (Include edition) 2020 NPA National Electrical Code	
Section: 230.67	
Section Title: Surge Protection	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.

~~230.67 Surge Protection.~~

~~230.67(A) Surge Protective Device. All services supplying dwelling units shall be provided with a surge protective device (SPD).~~

~~230.67(B) Location. The SPD shall be an integral part of the service equipment or shall be located immediately adjacent thereto.~~

~~Exception: The SPD shall not be required to be located in the service equipment as required in (B) if located at each next level distribution equipment downstream toward the load.~~

~~230.67(C) Type. The SPD shall be a Type 1 or Type 2 SPD.~~

~~230.67(D) Replacement. Where service equipment is replaced, all of the requirements of this section shall apply.~~

Purpose of or Reason for the amendment:

The code-making panel did not provide adequate substantiation to clearly identify a risk to equipment or safety concern to warrant this new requirement. Surge protection is currently permitted by the code and can provide a value to the end user, but it should remain up to the consumer as to whether the benefit is worth the investment. There are also potential issues with mandating currently available surge-protection products



in all cases. The new language does not specify which conductors are to be protected or what the minimum short circuit current rating, the minimum nominal discharge current rating or the voltage protection rating should be. Market pressures will dictate that the lowest level of protection is installed in most cases, severely limiting the effectiveness of the devices. There is also no guarantee that the devices remain in service, further negating any possible advantages of this new mandate.

During the code development process, the code making panel rejected several public comments to expand the surge-protection requirement to all occupancies and multiple levels of protection because they lacked substantiation. Yet the committee did not provide technical data in their statement showing a problem existed that required this change.

#### Cost or Savings Impact of Amendment:

This code change will increase the cost of construction. This change applies to all Reference Houses and each dwelling unit in all Reference Buildings. The cost analysis is based on a Type 2 installation: installing the SPD on the load side of and adjacent to the main electrical panel.

Component	Unit	Material	Labor	Total	w/O&P	Quantity	Cost
Surge-Protective Device	EA	97.89	60.00	157.89	197.44	1	197.44
20-amp 2-pole breaker	EA	8.68		8.68	9.55	1	9.55
<b>Total to Builder</b>							<b>206.99</b>
<b>Total to Consumer</b>							<b>246.11</b>

Reference Houses	Surge Protection			
	Unit	Unit Cost	Quantity	Cost
Reference House 1	EA	246.11	1	246.11
Reference House 2	EA	246.11	1	246.11
Reference House 3	EA	246.11	1	246.11
Reference House 4	EA	246.11	1	246.11

Reference Buildings	Surge Protection			
	Unit	Unit Cost	Quantity	Cost
Reference Building 1 (24 units)	EA	246.11	24	5,906.58
Reference Building 2 (36 units)	EA	246.11	36	8,859.87
Reference Building 3 (48 units)	EA	246.11	48	11,813.16
Reference Building 4 (167 units)	EA	246.11	167	41,099.96
Reference Townhouse	EA	246.11	1	246.11

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):

No compliance costs

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Street Address:38 W 13775 S.	
City, State, Zip Draper Utah 84020	
Contact Person: Ross Ford	Phone: 801-352-8266
Code to be Amended: (Include edition) 2020 NPA National Electrical Code	
Section: 230.85	
Section Title: Emergency Disconnects	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.

~~230.85 Emergency Disconnects.~~

~~For one and two family dwelling units, all service conductors shall terminate in disconnecting means having a short-circuit current rating equal to or greater than the available fault current, installed in a readily accessible outdoor location. If more than one disconnect is provided, they shall be grouped. Each disconnect shall be one of the following:~~

~~(1) Service disconnects marked as follows: EMERGENCY DISCONNECT, SERVICE DISCONNECT~~

~~(2) Meter disconnects installed per 230.82(3) and marked as follows: EMERGENCY DISCONNECT, METER DISCONNECT, NOT SERVICE EQUIPMENT~~

~~(3) Other listed disconnect switches or circuit breakers on the supply side of each service disconnect that are suitable for use as service equipment and marked as follows: EMERGENCY DISCONNECT, NOT SERVICE EQUIPMENT~~

~~Markings shall comply with 110.21(B).~~

Purpose of or Reason for the amendment:

The intent of this change is to allow firefighters to quickly shut off power from the electrical service before



entering a house to fight a fire. In some states, especially in the southwest, this is already common practice. A likely means of complying with the requirement in other parts of the country would be installing a meter main housing, which includes the main circuit breaker along with the meter socket, on the exterior of the home where the service drop is located. A second main breaker would not be necessary in the electrical panel located inside the home.

This requirement is not necessary in jurisdictions where the fire service has made other arrangements for dealing with the electrical service in the case of fire. It is also important to note that activating the disconnect will not shut off all power in every case. Some systems, such as photovoltaic and backup generators, will still provide power even after power from the electrical utility is disconnected.

**Cost or Savings Impact of Amendment:**

This code change will increase the cost of construction for one- and two-family dwellings. The analysis is based on the estimated cost to substitute a standard outdoor meter socket with a combination meter socket with integral main breaker. Further, the analysis includes the estimated cost to substitute a main breaker type indoor load center with a main lug type (no main circuit breaker). The analysis assumes that the labor to install these items does not change.

Component	Unit	Material	Labor	Total	w/O&P	Quantity	Cost
Combination meter socket with integral 200-amp main circuit breaker	EA	154.86		154.86	170.35	1	170.35
Standard meter socket	EA	60.10		60.10	66.11	(1)	(66.11)
Main lug type indoor load center, 200-amp, 30-space	EA	91.99		91.99	101.19	1	101.19
Main breaker type indoor load center, 200-amp, 30-space, with 200-amp main breaker	EA	121.00		121.00	133.10	(1)	(133.10)
<b>Total to Builder</b>							<b>72.33</b>
<b>Total to Consumer</b>							<b>85.99</b>

Reference Houses	Emergency Disconnect			
	Unit	Unit Cost	Quantity	Cost
Reference House 1	EA	85.99	1	85.99
Reference House 2	EA	85.99	1	85.99
Reference House 3	EA	85.99	1	85.99
Reference House 4	EA	85.99	1	85.99

Reference Buildings	Emergency Disconnect			
	Unit	Unit Cost	Quantity	Cost
Reference Townhouse	EA	85.99	1	85.99

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):

No compliance costs

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Street Address:38 W 13775 S.	
City, State, Zip Draper Utah 84020	
Contact Person: Ross Ford	Phone: 801-352-8266
Code to be Amended: (Include edition) 2020 NPA National Electrical Code	
Section: 406.4(D)(4)	
Section Title: Arc-fault Circuit Interrupters (AFCI) Receptacle Replacement	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.

406.4(D)(4) Arc-Fault Circuit-Interrupter Protection. Where a receptacle outlet is located in any areas specified in 210.12(A) or (B), a replacement receptacle at this outlet shall be one of the following:

1. A listed outlet branch-circuit type arc-fault circuit-interrupter receptacle
2. A receptacle protected by a listed outlet branch-circuit type arc-fault circuit-interrupter type receptacle
3. A receptacle protected by a listed combination type arc-fault circuit-interrupter type circuit breaker

Exception No. 1: Arc-fault circuit-interrupter protection shall not be required where all of the following apply:

1. The replacement complies with 406.4(D)(2)(b). 2. It is impracticable to provide an equipment grounding conductor as provided by 250.130(C). 3. A listed combination type arc-fault circuit-interrupter circuit breaker is not commercially available. 4. GFCI/AFCI dual function receptacles are not commercially available.

Exception No. 2: Section 210.12(B), Exception shall not apply to replacement of receptacles.

Purpose of or Reason for the amendment:

This amendment retains the provisions of the 2017 NEC. AFCIs were first introduced in the 1999 edition of the National Electrical Code (NEC) with an effective date of Jan. 1, 2002. Code Making Panel 2, which had responsibility over branch circuits where AFCIs are addressed, largely based its approval of the code change on several U.S. Consumer Product Safety Commission (CPSC) reports. However, the number of



incidents cited at the time were several times higher than in later reports, and where the data showed that AFCIs would have a minimal benefit, the results were ignored. The resulting expected benefits led to AFCI requirements being included in the NEC, but were overblown.

The problems with the rationale were so evident that even electrical manufacturers spoke against the proposal. During the 1998 code development cycle comment period, manufacturers' representatives stated that a large body of information was available to support rejecting an AFCI mandate. The main issue: the electrical problems AFCIs are designed to prevent occur overwhelmingly in older dwellings.

#### When the Home Was Built Is Important

A CPSC epidemiological study, "Residential Electrical Distribution System Fires," showed that 85% of fires of electrical origin occur in homes that are more than 20 years old. This means that the bulk of these homes were wired in accordance with the 1965 or earlier editions of the NEC. Further, they were wired with products manufactured to product safety standards of a similar vintage. In the years since, numerous changes have been made in both the NEC and product safety standards which mitigate against similar fires in newer homes—even as they age.

The June 2015 issue of the U.S. Fire Administration's Topical Fire Report Series reported "A strong relationship between housing age and the rate of electrical fires has been observed, with housing over 40 years old having the strongest association with electrical distribution fires [emphasis added]." The median age of one- and two-family housing in the U.S. is 40 years. The share of housing units built before 1970 is 39%, and those built before 1950 is 18%. According to a study conducted by the U.S. Consumer Product Safety Commission, dwellings built before 1965 may still have fuses instead of circuit breakers, and those built before 1945 may still have knob and tube wiring.

These older homes were also wired with a very limited number of receptacle outlets, resulting in extensive use of extension cords or improper alterations and additions to the original electrical system, both recognized fire hazards. In addition, they are more likely to have outdated appliances, space heaters or other characteristics that might lead to a greater risk of a fire starting. Newer homes have fire blocking, hardwired smoke alarms and egress windows installed to today's codes, all of which increase the chances of surviving a fire. Even as homes built to today's residential code get older, they will continue to provide protection for families through their improved safety.

While questions regarding construction code requirements intended to increase the safety of homes cannot, and should not, be decided solely on the issue of cost, it is reasonable to ask if there is a demonstrated need for the requirement or if an acceptable level of safety can be achieved through other, less expensive means. The cost of an incremental increase in the margin of safety can be quite high.

Higher regulatory costs have real consequences for working American families. These regulations end up pushing the price of housing beyond the means of many teachers, police officers, firefighters and other middleclass workers. Nationally, for every \$1,000 increase in the price of a home, about 150,000 households are priced out of the market for a median-priced new home. The added cost of \$300-\$400 for AFCIs may not sound like much when compared to the overall cost of a home, but this is only one of many regulations which adds cost for new homebuyers. Every \$838 increase in construction costs adds an additional \$1,000 to the final price of the home.

Mandating costly incremental increases in safety will only protect those who can afford them and will often decrease safety for those who cannot. Families who cannot qualify to purchase homes due to the increased costs from mandatory code requirements such as AFCIs will have to live in housing that is less safe, because that housing was built to less stringent code requirements.

The total cost to home buyers to install AFCIs is over \$430,000,000—per year. This is 24 times the cost of damage per year, and it is clear that requiring AFCIs in new construction will not prevent all damage. This is due to the fact that AFCIs cannot prevent all fires and, more importantly, that electrical fires occur overwhelmingly in older houses.

From 1980 to 2015 there has been a significant drop in the number of reported fires, injuries and fatalities in the United States. During that time period the number of fires has dropped by 50 percent and fatalities have dropped by about the same margin, even as the population increased. The decline was sharpest during the 1980s before AFCIs were introduced. This further supports the importance of encouraging homeowners to move up to newer homes without the added burden of increased regulation.

#### Cost or Savings Impact of Amendment:

Cost will vary by number installed, ranging from \$50 to \$100 per change out.

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):  
 No compliance costs

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REQUEST FOR CODE AMENDMENT

Requesting Agency/Home Builders Association of Utah	Date:10/14.2020
Street Address:38 W 13775 S.	
City, State, Zip Draper Utah 84020	
Contact Person: Ross Ford	Phone: 801-352-8266
Code to be Amended: (Include edition) 2020 NPA National Electrical Code	
Section: 406.9(C)	
Section Title: Bathtub and Shower Space	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.

**406.9(C) Bathtub and Shower Space.**

~~Receptacles shall not be installed within a zone measured 900 mm (3 ft) horizontally and 2.5 m (8 ft) vertically from the top of the bathtub rim or shower stall threshold. The identified zone is all-encompassing and shall include the space or directly over the a bathtub or shower stall.~~

~~Exception: In bathrooms with less than the required zone the receptacle(s) shall be permitted to be installed opposite the bathtub rim or shower stall threshold on the farthest wall within the room.~~

1

Purpose of or Reason for the amendment:

Current code prohibits receptacles from being located directly above a bathtub or in a shower stall. In addition, receptacles in bathrooms are required to be GFCI protected, so further restrictions on their location are not needed.

The submitter of the code change claimed the original language was unclear, but it was easily understood in most cases. And the new language will cause non-uniform enforcement, because it can be interpreted in different ways. Specifically, the zone where receptacles are prohibited extends 3 ft from the bathtub rim. The rim is located on all sides of a bathtub, so does the zone extend 3 ft horizontally in every direction? Note the zone is "all-encompassing" which is defined as "including everything". This language seems to prohibit a receptacle from being installed within that zone even If there is a wall separating the end of the bathtub from the vanity. A receptacle is even more likely to be prohibited where a fixed glass panel



separates the tub or shower from the area where a homeowner would like a receptacle. Receptacles in proximity to bathtub and shower spaces is addressed for manufactured and mobile homes in the code as well, but distance restrictions are not included. The requirements for site-built homes should not be more restrictive than for manufactured and mobile homes.

Cost or Savings Impact of Amendment:

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):  
No compliance costs

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Contact Person: Ross Ford	Phone: 801-352-8266
Code to be Amended: (Include edition) 2020 NPA National Electrical Code	
Section: 406.12	
Section Title: Tamper Resistant Receptacles	

**AMENDMENT:**

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.

**406.12 Tamper-Resistant Receptacles.** All 15- and 20-ampere, 125- and 250-volt nonlocking-type receptacles in the areas specified in 406.12(1) through (8) ~~(7)~~ shall be listed tamper-resistant receptacles.

~~(1) Dwelling units including attached and detached garages and accessory buildings to dwelling units and common areas of multifamily dwellings~~ in all areas specified in 210.52 and 550.13.

(2) Guest rooms and guest suites of hotels and motels ~~and their common areas~~

(3) Child care facilities.

(4) Preschools and elementary education facilities.

(5) (4) Business offices, corridors, waiting rooms and the like in clinics, medical and dental offices, and outpatient facilities.

(6) Subset of assembly occupancies described in 518.2 to include places of waiting transportation, gymnasiums, skating rinks, and auditoriums.

(7) Dormitories

~~(8) Assisted Living facilities~~

(3) A single receptacle or a duplex receptacle for two appliances located within the dedicated space for each appliance that, in normal use, is not easily moved from one place to another and that is cord-and-plug connected in accordance with 400.10(A)(6), (A)(7), or (A)(8).

(4) Non-grounding receptacles used for replacements as permitted in 406.4(D)(2)(a).

Purpose of or Reason for the amendment:

This amendment retains the provisions of the 2017 NEC. This requirement was added in the 2008 edition of the National Electrical Code (NEC) and is not based on sound technical information which adequately substantiates that it will result in protecting small children from burns or injury. During the revision cycle leading up to the 2008 edition the supporting documentation for the proposal was based on the summarization of several National Electronic Injury Surveillance System reports from 1991-2001. The NEISS system gathers its data by sampling a group of monitored hospitals for the total number of injuries treated. They then take these figures and calculate the estimated national average.

Public comment from electrical contractors criticized the conclusions drawn from the report. They stated that the report did not identify if the incidents were occurring in newer or older homes. Older homes generally have more electrical hazards which can lead to a higher incidence of shocks.

The NEISS reports also did not provide any supporting information of where the child was located at the time the injury occurred, much less that all incidents occurred in dwelling units or if any child safety devices were present at the time the injury occurred. There is no scientific research available which has proven tamperresistant (TR) receptacles are more effective than other safety devices that are currently available on the market. The fact sheet, produced by the National Fire Protection Association, states that TR receptacles are preferred over plastic safety caps for the reason that the caps may be lost and may be a choking hazard for some ages. However, the Consumer Product Safety Commission (CPSC) suggests the use of outlet safety covers on their website Childproofing Your Home- 12 Safety Devices to Protect Your Children, and safety

covers available in stores today are large enough not to constitute a choking hazard. It's fair to say CPSC would not advocate their use if there were safety concerns.

Another concern that was shared by many on the technical review committee was the amount of force that must be applied to insert plugs into the tamper-resistant device and how it will affect the elderly community. The devices are designed in a way that the springs will not open unless the prongs are properly aligned with the shutters and are receiving equal amounts of pressure. Many on the panel voiced concern that there was a lack of product testing showing whether there will be an impact to the aging community's ability to use the new devices.

Notes/additional background:

During the 2008 revision Cycle, the National Electrical Manufacturers Association submitted the proposal to require tamper-resistant receptacles in all areas of a dwelling as indicated in Article 210.52 of the NEC. Over 29 negative comments were submitted in response to the proposal and all 29 comments were rejected by the technical committee. The negative comments were submitted by electrical contractors, electrical inspectors, and some manufactures. Below is a list of concerns that were raised:

1. The required force to insert cords into the device may prove too much for the elderly or disabled.
2. There is no scientific data directly comparing current available safety devices to tamper-resistant receptacles to support the claim that TR are more effective and will reduce the number of accidents.
3. That the proponent should provide data listing the areas of the dwelling where injuries have occurred, thereby proving the need for tamper receptacle in areas such as attics, crawlspaces, mechanical rooms, countertops and other areas where the receptacles are normally out of reach of children.
4. At the time the proposal was approved, it was unknown whether any manufacturers were producing tamper-resistant devices that were compatible or integrated with arc-fault and ground-fault circuit interrupters.
5. The supporting documentation submitted by the proponent clearly stated "the results of these incidents are rarely fatal", and that further research should be conducted along with more product development before any such mandate should be implemented.
6. That the technical committee should remember, the code is not able to protect each person, in every situations, from every conceivable harm and should not be used as a tool to differ the responsibilities of the parent or caregiver who should be monitoring the children.
7. That the substantiation lacked any credible justification for disallowing the use of plastic safety caps other than claiming that they could be lost or become a choking hazard.
8. Why limit tamper-resistant receptacles to dwellings? There are several other occupancies that do not require these devices, yet children are present and the receptacles are accessible.
9. Tamper-resistant receptacles should be an option for dwellings that children occupy and not mandatory for dwellings where children are not present.

Cost or Savings Impact of Amendment:



Cost savings is minimal

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):  
No compliance costs

**For Division Use:**

Signature:	Date:
Date received:	
<b>Committee Action:</b> Approved Approved with revisions Referred to: Tabled	<b>UBC Commission Decision for Hearing:</b> Approved for hearing Approved with revisions Referred to: Tabled
Date Filed:	Public Hearing Date:
<b>UBC Commission Decision for Adoption:</b> Approved Approved with revisions Referred to Tabled	Effective Date:

UTAH DEPARTMENT OF COMMERCE  
DIVISION OF OCCUPATIONAL AND PROFESSIONAL LICENSING  
160 East 300 South Salt Lake City UT 84111  
PO Box 146741 Salt Lake City UT 84114-6741  
E-mail: b8@utah.gov  
Web: www.dopl.utah.gov

REQUEST FOR CODE AMENDMENT

Requesting Agency/Person: <b>Doug Smith and Chris Jensen</b>	Date: <b>10/12/2020</b>
Street Address: <b>908 W Gordon Ave., Suite 3</b>	
City, State, Zip <b>Layton, Utah, 84041</b>	
Contact Person: <b>Doug Smith, and Chris Jensen</b>	Phone: <b>801-550-7630/ 435-760-4675</b>
Code to be Amended: <b>Title 15A - State Construction and Fire Codes Act</b> (Include edition)	
Section: <b>15A-3-202</b> (add a new definition to Chapter 2 of the IRC, and a new Section - R327 to Chapter 3 of the IRC). Also in <b>15A-3-206</b> adding a new UL standard reference.	
Section Title: <b>15A-3-202 - Amend. to Chap. 1 through 5 of IRC; and 15A-3-206 - Amend. to Chap. 37, 39, 44, and Appendix F of IRC.</b>	

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording.)

1. Include the entire section you wish to amend.
2. Attach additional sheets if necessary.

**See attached pages at the end of this application for the proposed amendments.**

**Purpose of or Reason for the amendment:**

Utah has seen a significant increase in energy storage systems (battery backup systems). The new technologies for batteries, such as lithium, run higher risks for thermal runaway and can potentially cause fires. Also, there's new testing standards for such systems that need to be enforced to ensure safety of systems and comparability of battery system components. Unfortunately the current Utah adopted 2015 IRC does not contain any provisions or requirements for energy storage systems. This is a significant issue and needs to be remedied as soon as possible by adding energy storage system requirements to our State Amendments. Doing so will greatly help ensure such systems are installed in a safe manner and equipment is properly tested and listed.

**Cost or Savings Impact of Amendment:**

Cost impact of proposed changes will be minimal if a battery system is installed in a garage. Only a heat detector will be required in such case (costs of most heat detectors are less than \$100). If a battery system must be installed in the home and typex 5/8" drywall is required on the walls and ceiling, additional costs of \$14 per 4x8 sheet. Total costs will vary depending on size and dimensions of room.

Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):

Proposed changes will not add costs other than the installation costs noted in the above section.

There will be no impact costs to State Budget and/or Local Government.

Signature:

**Doug Smith**

Digitally signed by Doug Smith  
DN: C=US, E=dougs@wc-3.com, O=West Coast  
Code Consultants (WC3), CN=Doug Smith  
Reason: I attest to the accuracy and integrity of this  
document  
Date: 2020.10.12 17:54:46-06'00'

Date: **10/12/2020**

**For Division Use:**

Date Received:

**Committee Action:**

- ☒ Approved *11-2-2020* ☐ Denied  
☐ Approved with revisions  
☐ Referred to:  
☐ Tabled

**UBC Commission Decision for Hearing:**

- ☒ Approved for hearing ☐ Denied  
☐ Approved with revisions  
☐ Referred to:  
☐ Tabled

Date Filed:

Public Hearing Date:

**UBC Commission Decision for Adoption:**

- ☐ Approved ☐ Denied  
☐ Approved with revisions  
☐ Referred to:  
☐ Tabled

Effective Date:



**UTAH UNIFORM BUILDING STANDARDS**  
**Form and Procedures for Code Amendments**

- (1) All requests for amendments:
  - (a) shall be submitted to the Division on the attached form and
  - (b) shall be submitted in correct code editing format and shall contain a cost impact analysis. (Editing format should include ~~strikeout~~ for deletion and underline for additions.)
- (2) The Division will review the proposed amendments for proper form and cost analysis and return them to the proponent if incorrect or incomplete.
- (3) The Division will forward the proposed amendments to the appropriate building codes advisory committee(s) based on the particular code(s) affected.
- (4) The assigned advisory committee(s) will review the proposed change and may meet with the proponent of each amendment. After its review, the committee will make a recommendation to the Uniform Building Code Commission.
- (5) The Uniform Building Code Commission will consider the proposed amendment and may take any of the following actions:
  - (a) deny the proposed amendment;
  - (b) return the proposed amendment to the proponent with recommendations for specific changes;
  - (c) return the proposed amendment to the assigned advisory committee(s) with recommendations for specific changes;
  - (d) forward the proposed amendment to interested persons and associations for comments or review;
  - (e) publish the proposed amendment for public comment and hearing. A public hearing will be held for all proposed amendments before they are recommended to the Legislature's Business and Labor Interim Committee.
  - (f) recommend the proposed amendment for legislative action to the Legislature's Business and Labor Interim Committee.

***Proposed Amendments to the Utah Adopted State Code:***

**15A-3-202. Amendments to Chapters 1 through 5 of IRC.**

- (1) In IRC, Section R102, a new Section R102.7.2 is added as follows: "R102.7.2 Physical change for bedroom window egress. A structure whose egress window in an existing bedroom is smaller than required by this code, and that complied with the construction code in effect at the time that the bedroom was finished, is not required to undergo a physical change to conform to this code if the change would compromise the structural integrity of the structure or could not be completed in accordance with other applicable requirements of this code, including setback and window well requirements."
- (2) In IRC, Section R108.3, the following sentence is added at the end of the section: "The building official shall not request proprietary information."
- (3) In IRC, Section 109:
  - (a) A new IRC, Section 109.1.5, is added as follows: "R109.1.5 Weather-resistant exterior wall envelope inspections. An inspection shall be made of the weather-resistant exterior wall envelope as required by Section R703.1 and flashings as required by Section R703.8 to prevent water from entering the weather-resistive barrier."
  - (b) The remaining sections are renumbered as follows: R109.1.6 Other inspections; R109.1.6.1 Fire- and smoke-resistance-rated construction inspection; R109.1.6.2 Reinforced masonry, insulating concrete form (ICF) and conventionally formed concrete wall inspection; and R109.1.7 Final inspection.
- (4) IRC, Section R114.1, is deleted and replaced with the following: "R114.1 Notice to owner. Upon notice from the building official that work on any building or structure is being prosecuted contrary to the provisions of this code or other pertinent laws or ordinances or in an unsafe and dangerous manner, such work shall be immediately stopped. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent or to the person doing the work; and shall state the conditions under which work will be permitted to resume."
- (5) In IRC, Section R202, the following definition is added: "CERTIFIED BACKFLOW PREVENTER ASSEMBLY TESTER: A person who has shown competence to test Backflow prevention assemblies to the satisfaction of the authority having jurisdiction under Utah Code, Subsection [19-4-104\(4\)](#)."
- (6) In IRC, Section R202, the definition of "Cross Connection" is deleted and replaced with the following: "CROSS CONNECTION. Any physical connection or potential connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other either water of unknown or questionable safety or steam, gas, or chemical, whereby there exists the possibility for flow from one system to the other, with the direction of flow depending on the pressure differential between the two systems (see "Backflow, Water Distribution")."



- (7) In IRC Section R202, the following definition is added: ENERGY STORAGE SYSTEM (ESS). One or more devices, assembled together, that are capable of storing energy for supplying electrical energy at a future time.
- (8) In IRC, Section 202, in the definition for gray water a comma is inserted after the word "washers"; the word "and" is deleted; and the following is added to the end: "and clear water wastes which have a pH of 6.0 to 9.0; are non-flammable; non-combustible; without objectionable odors; non-highly pigmented; and will not interfere with the operation of the sewer treatment facility."
- (9) In IRC, Section R202, the definition of "Potable Water" is deleted and replaced with the following: "POTABLE WATER. Water free from impurities present in amounts sufficient to cause disease or harmful physiological effects and conforming to the Utah Code, [Title 19, Chapter 4, Safe Drinking Water Act](#), and [Title 19, Chapter 5, Water Quality Act](#), and the regulations of the public health authority having jurisdiction."
- (10) IRC, Figure R301.2(5), is deleted and replaced with R301.2(5) as follows:

Table R301.2(5) \*\*\*\*unchanged\*\*\*\*

- (11) IRC, Section R301.6, is deleted and replaced with the following: "R301.6 Utah Snow Loads. The snow loads specified in Table R301.2(5b) shall be used for the jurisdictions identified in that table. Otherwise, for other locations in Utah, see Bean, B., Maguire, M., Sun, Y. (2018), "The Utah Snow Load Study," Utah State University Civil and Environmental Engineering Faculty Publications, Paper 3589, <http://utahsnowload.usu.edu/>, for ground snow load values."
- (12) In IRC, Section R302.2, the following sentence is added after the second sentence: "When an access/maintenance agreement or easement is in place, plumbing, mechanical ducting, schedule 40 steel gas pipe, and electric service conductors including feeders, are permitted to penetrate the common wall at grade, above grade, or below grade."
- (13) In IRC, Section R302.5.1, the words "self-closing device" are deleted and replaced with "self-latching hardware."
- (14) IRC, Section R302.13, is deleted.
- (15) In IRC, Section R303.4, the number "5" is changed to "3" in the first sentence.
- (16) IRC, Sections R311.7.4 through R311.7.5.3, are deleted and replaced with the following: "R311.7.4 Stair treads and risers. R311.7.5.1 Riser height. The maximum riser height shall be 8 inches (203 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). R311.7.5.2 Tread depth. The minimum tread depth shall be 9 inches (228 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the



smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12-inch (305 mm) walk line shall not exceed the smallest by more than 3/8 inch (9.5 mm).

R311.7.5.3 Profile. The radius of curvature at the leading edge of the tread shall be no greater than 9/16 inch (14.3 mm). A nosing not less than 3/4 inch (19 mm) but not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than 3/8 inch (9.5 mm) between two stories, including the nosing at the level of floors and landings. Beveling of nosing shall not exceed 1/2 inch (12.7 mm). Risers shall be vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4-inch diameter (102 mm) sphere.

Exceptions.

1. A nosing is not required where the tread depth is a minimum of 10 inches (254 mm).
2. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches (762 mm) or less."

(17) IRC, Section R312.2, is deleted.

(18) IRC, Sections R313.1 through R313.2.1, are deleted and replaced with the following: "R313.1 Design and installation. When installed, automatic residential fire sprinkler systems for townhouses or one- and two-family dwellings shall be designed and installed in accordance with Section P2904 or NFPA 13D."

(19) In IRC, Section 315.3, the following words are added to the first sentence after the word "installed": "on each level of the dwelling unit and."

(20) In IRC, Section R315.5, a new exception, 3, is added as follows:

"3. Hard wiring of carbon monoxide alarms in existing areas shall not be required where the alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for hard wiring, without the removal of interior finishes."

(21) A new IRC, Section R315.7, is added as follows: " R315.7 Interconnection. Where more than one carbon monoxide alarm is required to be installed within an individual dwelling unit in accordance with Section R315.1, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

Exception: Interconnection of carbon monoxide alarms in existing areas shall not be required where alterations or repairs do not result in removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or

basement available which could provide access for interconnection without the removal of interior finishes."

(22) In IRC, Section R317.1.5, the period is deleted and the following language is added to the end of the paragraph: "or treated with a moisture resistant coating."

(23) In IRC, Section 326.1, the words "residential provisions of the" are added after the words "pools and spas shall comply with".

(24) "A new IRC, Section R327 is added as follows:

R327.1 General. Energy storage systems (ESS) shall comply with the provisions of this section.

Exceptions:

1. ESS listed and labeled in accordance with UL 9540 and marked "For use in residential dwelling units", where installed in accordance with the manufacturer's instructions and NFPA 70.

2. ESS less than 1 kWh (3.6 megajoules)

R327.2 Equipment listings. ESS shall be listed and labeled in accordance with UL 9540.

Exception:

1. Where approved, repurposed unlisted battery systems from electric vehicles are allowed to be installed outdoors or in detached sheds located not less than 5 feet (1524 mm) from exterior walls, property lines and public ways.

R327.3 Installation. ESS shall be installed in accordance with the manufacturer's instructions and their listing.

R327.3.1 Spacing. Individual units shall be separated from each other by not less than three feet (914 mm) except where smaller separation distances are documented to be adequate based on large scale fire testing complying with Section 1206.2.3 of the adopted International Fire Code.

R327.4 Locations. ESS shall be installed only in the following locations:

1. Detached garages and detached accessory structures.

2. Attached garages separated from the dwelling unit living space in accordance with Section R302.6.

3. Outdoors or on the exterior side of exterior walls located not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit.

4. Enclosed utility closets, basements, storage or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8-inch Type X gypsum wallboard.

ESS shall not be installed in sleeping rooms, or closets or spaces opening directly into sleeping rooms.

R327.5 Energy ratings. Individual ESS units shall have a maximum rating of 20 kWh. The aggregate rating of the ESS shall not exceed:

1. 40 kWh within utility closets, basements, and storage or utility spaces.

2. 80 kWh in attached or detached garages and detached accessory structures.

3. 80 kWh on exterior walls.

4. 80 kWh outdoors on the ground.

ESS installations exceeding the permitted individual or aggregate ratings shall be installed in accordance with Sections 1206.2.1 through 1206.2.12 of the adopted International Fire Code.

R327.6 Electrical installation. ESS shall be installed in accordance with NFPA 70. Inverters shall be listed and labeled in accordance with UL 1741 or provided as part of the UL 9540 listing. Systems connected to the utility grid shall use inverters listed for utility interaction.

R327.7 Fire detection. Rooms and areas within dwelling units, basements, and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with Section R314. A heat detector, listed and interconnected to the smoke alarms, shall be installed in locations within dwelling units and attached garages where smoke alarms cannot be installed based on their listing.

R327.8 Protection from impact. ESS installed in a location subject to vehicle damage shall be protected by approved barriers.

R327.9 Ventilation. Indoor installation of ESS that include batteries that produce hydrogen or other flammable gases during charging shall be provided with mechanical ventilation in accordance with Section M1307.4.

R327.10 Electric vehicle use. The temporary use of an owner or occupant's electric powered vehicle to power a dwelling unit while parked in an attached or detached garage or outdoors shall comply with the vehicle manufacturer's instructions and NFPA 70.

R327.11 Signage. A sign located on the exterior of the dwelling shall be installed at a location approved by the authority having jurisdiction which identifies the battery chemistry included in the ESS. This sign shall be of sufficient durability to withstand the environment involved and shall not be handwritten."

- (25) In IRC, Section R403.1.6, a new Exception 3 is added as follows: " 3. When anchor bolt spacing does not exceed 32 inches (813 mm) apart, anchor bolts may be placed with a minimum of two bolts per plate section located not less than 4 inches (102 mm) from each end of each plate section at interior bearing walls, interior braced wall lines, and at all exterior walls."
- (26) In IRC, Section R403.1.6.1, a new exception is added at the end of Item 2 and Item 3 as follows: "Exception: When anchor bolt spacing does not exceed 32 inches (816 mm) apart, anchor bolts may be placed with a minimum of two bolts per plate section located not less than 4 inches (102 mm) from each end of each plate section at interior bearing walls, interior braced wall lines, and at all exterior walls."
- (27) In IRC, Section R404.1, a new exception is added as follows: "Exception: As an alternative to complying with Sections R404.1 through R404.1.5.3, concrete and masonry foundation walls may be designed in accordance with IBC Sections 1807.1.5 and 1807.1.6 as amended in Section 1807.1.6.4 and Table 1807.1.6.4 under these rules."
- (28) In IRC, Section R405.1, a new exception is added as follows: "Exception: When a geotechnical report has been provided for the property, a drainage system is not required unless the drainage system is required as a condition of the geotechnical



report. The geological report shall make a recommendation regarding a drainage system."

**15A-3-206. Amendments to Chapters 37, 39, and 44 and Appendix F of IRC.**

- (1) In IRC, Section E3705.4.5, the following words are added after the word "assemblies": "with ungrounded conductors 10 AWG and smaller".
- (2) In IRC, Section E3901.9, the following exception is added:  
"Exception: Receptacles or other outlets adjacent to the exterior walls of the garage, outlets adjacent to an exterior wall of the garage, or outlets in a storage room with entry from the garage may be connected to the garage branch circuit."
- (3) IRC, Section E3902.16 is deleted.
- (4) In Section E3902.17:
  - (a) following the word "Exception" the number "1." is added; and
  - (b) at the end of the section, the following sentences are added:  
"2. This section does not apply for a simple move or an extension of a branch circuit or an outlet which does not significantly increase the existing electrical load. This exception does not include changes involving remodeling or additions to a residence."
- (5) IRC, Chapter 44, is amended by adding the following reference standard:

"Standard reference number	Title
USC-FCCCHR 10th Edition Manual of Cross Connection Control	Foundation for Cross-Connection Control and Hydraulic F California Kaprielian Hall 300 Los Angeles CA 90089-25.

**(6) IRC, Chapter 44, is amended by adding the following reference standard:**

**UL 9540-20: Energy Storage Systems and Equipment; R327.1, R327.2, and R327.6.**

- (7)** (a) When passive radon controls or portions thereof are voluntarily installed, the voluntary installation shall comply with Appendix F of the IRC.
- (b) An additional inspection of a voluntary installation described in Subsection (6)(a) is not required.